



MSc Candidate Position in Paleolimnology

Investigating the long-term impacts of spruce budworm defoliation on boreal lake ecosystems

We are looking for a motivated and curious MSc student to join our research team in the [Paleoenvironmental Research and Aquatic Biogeochemistry Lab](#) at the Université du Québec en Abitibi-Témiscamingue (UQAT). This exciting research project explores how large-scale forest defoliation caused by spruce budworm outbreaks has shaped water quality and carbon dynamics in boreal lakes over time.

Project Overview

Spruce budworm (*Choristoneura fumiferana*) outbreaks are one of the most important natural disturbances in Canada's boreal forest, causing extensive tree defoliation and mortality. These terrestrial changes can have cascading effects on nearby lakes by influencing runoff, nutrient inputs, and organic matter transport to lakes. Yet, the long-term impacts on lake ecosystems remain poorly understood. How do insect outbreaks affect lake water quality and carbon cycling? What will happen if outbreaks become more frequent under climate change?

This project will address these questions using lake sediment cores as natural archives of past environmental changes. Sediments preserve evidence of how forests and lakes have responded to insect disturbances over decades to centuries. The MSc student will use multi-proxy techniques, including geochemical analyses, spectroscopic methods, and remote sensing and satellite image interpretation. The student will be supervised by Professor Carsten Meyer-Jacob and will work in close collaborations with partners at the Canadian Forest Service and Natural Resources Canada within a dynamic, interdisciplinary research environment focused on forest-lake interactions under climate change.

Position Details

Start Date: January 2026 or May 2026

Duration: 2 years (full-time MSc)

Financial Support: Scholarship of \$21,000 CAD/year for 2 years

Location: UQAT, Rouyn-Noranda campus (Quebec, Canada)

Graduate Program: Maîtrise en écologie et aménagement des écosystèmes forestiers – [Click here to learn more about the program.](#)

Who should apply?

We welcome applications from students with:

- A BSc or equivalent in Biology, Earth and Environmental Sciences, or related fields
- Experience or strong interest in field and lab work
- Good written and spoken communication skills in English
- Ability to work both independently and as part of a team
- A strong motivation to explore and address environmental challenges in a changing environment
- Background in paleolimnology, aquatic ecology or biogeochemistry (an asset)

How to apply: For inquiries or to apply, please send an email with the subject line "MSc Project Paleolimnology: Insect Defoliation Effects on Lakes" to Professor Carsten Meyer-Jacob (carsten.meyer-jacob@uqat.ca). Applications should include a statement of interest, a CV, a copy of transcripts (unofficial transcripts are acceptable), and the names of three references. Applications will be reviewed until the position is filled.





UQAT: HIGHER LEARNING ON A HUMAN SCALE

Study in the heart of Quebec's great outdoors

Set in a region where wilderness, lakes, and forest stimulate creativity and foster talent, UQAT is different by nature.

With 22,000 lakes and endless miles of boreal forest, Abitibi-Témiscamingue is a dynamic place full of creative people, new ideas, and bold projects. [See what our students have to say!](#)

Renowned professors with time for you

The professors at UQAT are recognized experts in their fields who epitomize quality teaching. And with a ratio of one professor or lecturer to every twelve students, UQAT offers a personalized educational environment where you will fit right in. Knowing you can always count on your professors to be available - now that's a real advantage.

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Research activities at UQAT are producing remarkable results in a range of scientific fields. According to the 2024 independent firm RESEARCH Infosource Inc., UQAT ranks first in terms of research intensity per professor among Canadian Undergraduate universities.

With more than \$24 million in research per year and state-of-the-art laboratories, UQAT is an exceptional environment for graduate students. Many of our students have achieved excellence in their chosen fields and many of our professors have been recognized for the quality of their research and their innovative spirit. [Find out more](#)

STUDENT FOR A DAY

One visit is enough to know that UQAT is a first-class institution. The Student for a Day program is the best way to learn more about UQAT, visit the campus that interests you, and meet professors and students.

We'll tailor the visit to your needs and interests!

[Find out more](#)

